AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application.

1. (Currently Amended) A rat diabetes model, wherein the rat develops symptoms of type II diabetes and progressive diabetic nephropathy with nodule formation and wherein the rat is a T2DN rat comprising ~~obtained~~ mitochondrial genome and loci on chromosomes 2 (D2Rat12), 11 (D11Rat93), 16 (D16Rat15), 19 (D19Rat59), X (DXMit4) and DXMit42 from ~~a cross between~~ a Fawn Hooded rat into [[and]] a GK rat, and differences between the T2DN rat and the GK rat at markers D3Rat57, 11 (D11Mgh5), 12 (D12Rat22), D1Rat291, D1Mit18, D1Mit34, D1Mgh12 and D1Rat185, wherein the rat develops progressive proteinuria and glomerulosclerosis leading to diabetic nephropathy.

2. (Withdrawn) The rat of claim 1, wherein the rat is of strain T2DN $Mimic_{MCW}$.

3. (Original) A population of rats, comprising at least two rats of claim 1.

4. (Original) The rat of claim 1, wherein the rat has been genetically altered.

5. (Original) The rat of claim 4, wherein the rat has additional genetic material relative to an unmodified rat.

6. (Original) The rat of claim 4, wherein the rat lacks genetic material relative to an unmodified rat.

7. (Original) A rat obtained by breeding the rat of claim 1 to a second rat.

8. (Original) A rat obtained by breeding the rat of claim 4 to a second rat.

9. (Withdrawn) A cell line derived from the rat of claim 1.

10. (Withdrawn) A cell line derived from the rat of claim 4.

11. (Currently Amended) A method of evaluating a test compound's effect on diabetes and diabetic nephropathy in a T2DN rat comprising the steps of:

(a) exposing the test compound to a T2DN rat ~~obtained~~ comprising mitochondrial genome and loci on chromosomes 2 (D2Rat12), 11 (D11Rat93), 16 (D16Rat15), 19 (D19Rat59), X (DXMit4), DXMit42 from ~~a cross between~~ a Fawn Hooded rat into [[and]] a GK rat and differences between the T2DN rat and the GK rat at markers D3Rat57, 11 (D11Mgh5), 12 (D12Rat22), D1Rat291, D1Mit18, D1Mit34, D1Mgh12 and D1Rat185, wherein the rat would develop progressive proteinuria and glomerulosclerosis leading to diabetic nephropathy in the absence of the test compound; and

(b) comparing the rat's development of diabetes and diabetic nephropathy with a control T2DN mimic rat that has not been exposed to the test compound.

12. (Currently Amended) A method of evaluating a test compound's effect on diabetes and diabetic nephropathy in a T2DN rat comprising the steps of:

(a) exposing the test compound to a genetically altered T2DN rat ~~obtained~~ comprising mitochondrial genome and loci on chromosomes 2 (D2Rat12), 11 (D11Rat93), 16 (D16Rat15), 19 (D19Rat59), X (DXMit4) and DXMit42 from ~~a cross between~~ a Fawn Hooded rat into [[and]] a GK rat, and differences between the T2DN rat and the GK rat at markers D3Rat57, 11 (D11Mgh5), 12 (D12Rat22), D1Rat291, D1Mit18, D1Mit34, D1Mgh12 and D1Rat185, wherein the rat would develop progressive proteinuria and glomerulosclerosis leading to diabetic nephropathy in the absence of the test compound; and

(b) comparing the rat's development of diabetes and diabetic nephropathy with a control T2DN mimic rat that has not been exposed to the test compound.

13. (Withdrawn) A method of evaluating a test compound's effect on cardiac damage produced by type II diabetes comprising the steps of:

(a) exposing the test compound to the rat of claim 1, wherein the rat would develop cardiac damage in the absence of the test compound, and

(b) comparing the rat's development of cardiac damage with a control T2DN mimic rat that has not been exposed to the test compound.

14. (Withdrawn) A method of evaluating a test compound's effect on vascular damage produced by type II diabetes comprising the steps of:

(a) exposing the test compound to the rat of claim 1, wherein the rat would develop vascular damage in the absence of the test compound, and

(b) comparing the rat's development of vascular damage with a control T2DN mimic rat that has not been exposed to the test compound.

15. (Withdrawn) A method of evaluating a test compound's effect on eye damage produced by type II diabetes comprising the steps of:

(a) exposing the test compound to the rat of claim 1, wherein the rat would develop eye damage in the absence of the test compound, and

(b) comparing the rat's development of eye damage with a control T2DN mimic rat that has not been exposed to the test compound.

16. (Previously Presented) A rat diabetes model obtained by the process of claim 1.

17. (Previously presented) The rat of claim 16 wherein the rat has been genetically altered but still develops progressive proteinuria and glomerulosclerosis leading to diabetic nephropathy.